ENGLISH TRANSLATION OF INTERNATIONAL APPLICATION AS ORIGINALLY FILED

DESCRIPTION

AT-HOME MEDICAL CONSULTATION SYSTEM AND AT-HOME MEDICAL CONSULTATION METHOD

Technical Field

This invention relates to an at-home medical consultation system which enables a patient at home to consult a doctor over a videophone.

Background Art

Owing to the development of communication technology in recent years, it is becoming possible for persons at a distance from each other to hold a conversation on a practicable level by using a videophone. Also in the medical field, it has been attempted to put an at-home medical consultation system to a practical use to enable a patient at home to receive a medical consultation service by connecting to a doctor terminal at a distance by using a videophone.

A conventional at-home medical consultation system has been disclosed in, for example, JP-A-11-89802 according to which a doctor terminal and a patient terminal are connected together through a digital communication network, and a conversation is held between the doctor terminal and the patient terminal over a videophone enabling the patient at home

to consult the doctor. In this system, sensors for measuring the patient's body temperature, heart beat, blood pressure, etc. are connected to the patient terminal. Upon putting these sensors on the patient's body, the values measured by the sensors are displayed on the doctor terminal, and the doctor properly examines the patient based upon these data and the expression and motion of the patient.

The above at-home medical consultation system enables the patient at home to consult the doctor, so that a person living in a doctorless village or in some remote place such as a foreign country as well as an invalid or a bedridden aged person can easily receive a medical service.

Furthermore, the widespread use of such at-home medical consultation system enables the patient to receive a greatly increased freedom for medical consultation so that an accident that results from passing-around of, for example, an infantile patient, which is a problem arousing in recent years, can be prevented.

According to the conventional at-home medical consultation system, however, the patient terminal is disconnected from the doctor terminal except when the patient consults the doctor and the patient must wait with patience for the access from the doctor terminal for medical consultation, so it has a problem in which the situation cannot be coped with when the patient's condition has turned suddenly

during that period.

When actually visiting a hospital, a patient's anxiety for sickness or sense of isolation can be eliminated by talking to other patients and exchanging information to each other while waiting in a waiting room of a hospital or by consulting a nurse. When consulting at home, however, the patient is unable to exchange information with other patients or to consult the nurse, except to talk to the doctor by connecting to the doctor terminal, so it has a problem in which the patent has to spend the days while having anxiety for the sickness and sense of isolation.

This is a serious problem, particularly, for the aged persons living alone or for the bedridden patients.

Therefore, a principal object of the present invention is to provide an at-home medical consulting service in which a sudden turn of the patient's condition can be coped with, even when the patient terminal is not connected to the doctor terminal, and the patient's anxiety for the sickness or sense of isolation can be eliminated without increasing the burden of a doctor.

Disclosure of the Invention

An at-home medical consultation system described in claim 1 is a system for providing an at-home medical consulting service by connecting a patient terminal having a videophone

function to a doctor terminal having a videophone function through a communication line, which comprises a reception server for accepting a request for medical consultation from the patient terminal, and a communication server for providing a bidirectional communication function of video and audio by connecting the patient terminal whose request for medical consultation has been accepted to the doctor terminal, wherein the communication server includes a function for setting a virtual waiting room for providing a conversation service by video and audio among the patient terminals, and the reception server includes a function for connecting the patient terminal whose request for medical consultation has been accepted to the virtual waiting room that has been set.

With this configuration, the reception server connects the patient terminal whose request for medical consultation has been accepted to the virtual waiting room that has been set by the communication server, and the communication server provides a conversation service over the videophones among the patient terminals connected to the virtual waiting room, so that the patient can receive an assist from other patients who have been connected to the virtual waiting room even in case the patient's condition has turned quickly before consulting the doctor by connecting the patient terminal to the doctor terminal and the patient's anxiety for the sickness or sense of isolation can be eliminated by exchanging information among

the patients connected to the virtual waiting room, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation system described in claim 2 is the at-home medical consultation system described in claim 1, wherein the communication server includes a function for connecting a waiting room terminal having a videophone function installed in a waiting room of a hospital to the virtual waiting room that has been set.

With this configuration, the communication server provides a conversation service over the videophones between the patient terminal connected to the virtual waiting room and the waiting room terminal installed in the waiting room of the hospital, so that the patient can receive an assist from other patients who are in the waiting room of the hospital even in case the patient's condition has turned suddenly before consulting the doctor by connecting the patient terminal to the doctor terminal and patient's anxiety for the sickness or sense of isolation can be eliminated by exchanging information among the patients in the waiting room of the hospital, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation system described in

claim 3 is the at-home medical consultation system described in claim 1 or 2, wherein the reception server includes a function for selecting a callee terminal connected to the virtual waiting room based on a position in a screen specified by a pointing device at the caller terminal connected to the virtual waiting room, and the communication server includes a function for providing a conversation service by video and audio by connecting the caller terminal to the callee terminal separately.

With this configuration, the reception server selects the callee terminal of the patient terminal specified by the pointing device at the caller terminal, and the communication server provides an individual conversation service over the videophones between the caller terminal and the callee terminal, so that the private counseling with the particular patient can be performed, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation system described in claim 4 is the at-home medical consultation system described in any one of claims 1 to 3, wherein the reception server includes a function for accepting a nurse call from the patient terminal and notifying it to a nurse terminal having a videophone function, and the communication server includes a function for providing a conversation service by video and

audio by connecting the patient terminal whose nurse call has been accepted to the notified nurse terminal.

With this configuration, the reception server accepts a nurse call from the patient terminal and notifies it to the nurse terminal, and the communication server provides an individual conversation service over the videophones between the patient terminal whose nurse call has been accepted and the notified nurse terminal, so that the patient at home can ask the nurse for treatment in case the condition has turned suddenly or consult the nurse about anxiety for the sickness and the like, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation system described in claim 5 is the at-home medical consultation system described in claim 4, wherein the patient terminal includes a nurse call button for transmitting a nurse call to the reception server, and includes a function for logging in to the reception server automatically when the nurse call button is pressed to transmit the nurse call.

With this configuration, upon pressing a nurse call button provided for the patient terminal, the patient terminal can log in to the reception server automatically, so that the patient can call the nurse terminal without going through the log-in procedure even in case the condition has turned suddenly

before log-in, thus, a quick at-home medical consulting service can be provided even in case of emergency.

An at-home medical consultation system described in claim 6 is the at-home medical consultation system described in claim 4 or 5, wherein the communication server includes a function for setting a virtual nursing room to which is connected the patient terminal used by a person who needs nursing, and the reception server includes a function for connecting the patient terminal used by the person who needs nursing to the virtual nursing room upon a request from the patient terminal, the doctor terminal or the nurse terminal, the communication server includes a function for transmitting the video and audio of the patient terminals connected to the virtual nursing room to the doctor terminal and/or the nurse terminal upon a request from the doctor terminal and/or the nurse terminal.

With this configuration, the reception server connects the patient terminal used by the person who needs nursing to the virtual nursing room set by the communication server upon a request from the patient terminal, the doctor terminal or the nurse terminal, and the communication server transmits the video and audio of the patient terminals connected to the virtual nursing room upon a request from the doctor terminal and/or the nurse terminal, so that the patient at home who must be monitored for a sudden turn of the condition can be checked

regularly from the doctor terminal and/or from the nurse terminal, thus, an at-home medical consulting service in an environment similar to when the patient is actually hospitalized can be provided.

An at-home medical consultation system described in claim 7 is the at-home consultation system described in claim 6, wherein the reception server includes a function for selecting a patient terminal connected to the virtual nursing room based on a position in a screen specified by the pointing device at the doctor terminal and/or the nurse terminal, and the communication server includes a function for providing a conversation service by video and audio by connecting the doctor terminal and/or the nurse terminal to the selected patient terminal separately.

With this configuration, the reception server selects the patient terminal specified by the pointing device at the doctor terminal and/or the nurse terminal, and the communication server provides an individual conversation service over the videophones between the doctor terminal and/or the nurse terminal and the selected patient terminal, so that the doctor and/or the nurse can grasp a sudden turn of the patient's conditions more properly, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital is provided.

An at-home medical consultation system described in

claim 8 is the at-home medical consultation system described in claim 6 or 7, wherein the patient terminal includes medical examination sensors for collecting the data necessary for consulting the patient, and includes a function for obtaining the data of the medical examination sensors and transmitting them to the communication server, the communication server includes a function for receiving the transmitted data of the medical examination sensors and transmitting them to the doctor terminal and/or the nurse terminal, and the doctor terminal and/or the nurse terminal include a function for receiving the transmitted data of the medical examination sensors and displaying them.

With this configuration, the data of the medical examination sensors provided at the patient terminal can be confirmed from the doctor terminal and/or the nurse terminal so that the condition of the patient at home can be grasped more correctly, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

The medical examination sensor preferably includes, for example, vital sensors used for measuring the body temperature, heart beat, blood pressure, degree of oxygen saturation, electrocardiogram and so on, or a stethoscope used for stethoscoping the heart sound or the breath sound such that the patient can wear its sensor head by himself. The doctor

may visit in advance to mount the sensor head and remotely take a measurement at the time of medical consultation service at home.

An at-home medical consultation system described in claim 9 is the at-home consultation system described in claim 8, wherein the patient terminal includes a function for transmitting part or whole of the signals of the medical examination sensors as audio signals.

With this configuration, as for the sensors like a stethoscope with which the doctor directly hears the sound that is picked up for examination, the sensor signals are transmitted from the patient terminal as audio signals of the videophone, so that the sensor signals can be directly heard by using a headset for conversation at the doctor terminal, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation system described in claim 10 is a system for providing an at-home medical consulting service by connecting a patient terminal having a videophone function to a doctor terminal having a videophone function through a communication line, and comprises a reception server for accepting a request for medical consultation from the patient terminal, and a communication server for providing a bidirectional communication function of video and audio by

connecting the patient terminal whose request for medical consultation has been accepted to the doctor terminal, wherein the communication server includes a function for setting a virtual nursing room to which is connected the patient terminal used by a person who needs nursing, the reception server includes a function for connecting the patient terminal used by the person who needs nursing to the virtual nursing room upon a request from the patient terminal, the doctor terminal or the nurse terminal having the videophone function, the communication server includes a function for transmitting video and audio of the patient terminals connected to the virtual nursing room to the doctor terminal and/or the nurse terminal upon a request from the doctor terminal and/or the nurse terminal.

With this configuration, the reception server connects the patient terminal used by the person who needs nursing to the virtual nursing room that has been set upon a request from the patient terminal, doctor terminal or nurse terminal, and the communication server transmits video and audio of the patient terminals connected to the virtual nursing room upon a request from the doctor terminal and/or the nurse terminal, so that the patient at home who must be monitored for a sudden turn of the condition can be checked regularly from the doctor terminal and/or the nurse terminal, thus, an at-home medical consulting service in an environment similar to when the

patient is actually hospitalized can be provided.

An at-home consultation system described in claim 11 is the at-home consultation system described in claim 10, wherein the reception server includes a function for selecting the patient terminal connected to the virtual nursing room based on a position in a screen specified by a pointing device at the doctor terminal and/or the nurse terminal, and the communication server includes a function for providing a conversation service by video and audio by connecting the doctor terminal and/or the nurse terminal to the selected patient terminal separately.

With this configuration, the reception server selects the patient terminal specified by the pointing device at the doctor terminal and/or the nurse terminal, and the communication server provides an individual conversation service over the videophones between the doctor terminal and/or the nurse terminal and the selected patient terminal, so that the doctor and/or the nurse can grasp a sudden turn of the patient's condition more properly, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home consultation system described in claim 12 is the at-home consultation system described in claim 10 or 11, wherein the reception server includes a function for accepting the nurse call from the patient terminal and notifying it to

the nurse terminal, and the communication server includes a function for providing a conversation service by video and audio by connecting the patient terminal whose nurse call has been accepted to the notified nurse terminal.

With this configuration, the reception server receives the nurse call from the patient terminal and notifies it to the nurse terminal, and the communication server provides an individual conversation service over the videophones between the patient terminal whose nurse call has been accepted and the notified nurse terminal, so that the patient at home can ask the nurse for treatment when the condition has turned suddenly or consult the nurse about anxiety for the sickness and the like, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation system described in claim 13 is the at-home medical consultation system described in claim 12, wherein the patient terminal includes a nurse call button for transmitting a nurse call to the reception server, and includes a function for logging in to the reception server automatically when the nurse call button is pressed to transmit the nurse call.

With this configuration, upon pressing a nurse call button provided for the patient terminal, the patient terminal can log in to the reception server automatically, so that the

patient can call the nurse terminal without going through log-in procedure even in case the condition has turned suddenly before log-in, thus, a quick at-home medical consulting service can be provided even in case of emergency.

An at-home medical consultation system described in claim 14 is the at-home medical consultation system described in any one of claims 10 to 13, wherein the patient terminal includes medical examination sensors for collecting the data necessary for consulting the patient, and includes a function for obtaining the data of the medical examination sensors and transmitting them to the communication server, the transmission server includes a function for receiving the transmitted data of the medical examination sensors and transmitting them to the doctor terminal and/or the nurse terminal, and the doctor terminal and/or the nurse terminal include a function for receiving the transmitted data of the medical examination sensors and displaying them.

With this configuration, the data of the medical examination sensors provided at the patient terminal can be confirmed from the doctor terminal and/or the nurse terminal so that the condition of the patient at home can be grasped more correctly, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

The medical examination sensors preferably includes,

for example, vital sensors used for measuring the body temperature, heart beat, blood pressure, degree of oxygen saturation, electrocardiogram and so on, or a stethoscope used for stethoscoping the heart sound or the breath sound such that the patient can wear its sensor head by himself. The doctor may visit in advance to mount the sensor head and remotely take a measurement at the time of medical consultation service at home.

An at-home medical consultation system described in claim 15 is the at-home medical consultation system described in claim 14, wherein the patient terminal includes a function for transmitting part or whole of the signals of the medical examination sensors as voice signals.

With this configuration, as for the sensors like a stethoscope with which the doctor directly hears the sound that is picked up for examination, the sensor signals are transmitted from the patient terminal as voice signals of the videophone, so that the sensor signals can be directly heard by using a headset for conversation at the doctor terminal, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation system described in claim 16 is a system for providing an at-home medical consulting service by connecting the patent terminal having a videophone

function to the doctor terminal having a videophone function through a communication line, and comprises a reception server for accepting a request for medical consultation from the patent terminal, and a communication server for providing a bidirectional communication function of video and audio by connecting the patient terminal whose request for medical consultation has been accepted to the doctor terminal, wherein the reception server includes a function for accepting a nurse call from the patient terminal and notifying it to the nurse terminal having the videophone function, and the communication server includes a function for providing a conversation service by video and audio by connecting the patent terminal whose nurse call has been accepted to the notified nurse terminal.

With this configuration, the reception server accepts a nurse call from the patient terminal and notifies it to the nurse terminal, and the communication server provides an individual conversation service over the videophones between the patient terminal whose nurse call has been accepted and the notified nurse terminal, so that the patient at home can ask the nurse for treatment in case the condition has turned suddenly or consult the nurse about anxiety for the sickness and the like, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation system described in claim 17 is the at-home medical consultation system described in claim 16, wherein the patient terminal includes a nurse call button for transmitting a nurse call to the reception server, and includes a function for logging in to the reception server automatically when the nurse call button is pressed to transmit the nurse call.

With this configuration, upon pressing a nurse call button provided for the patient terminal, the patient terminal can log in to the reception server automatically, so that the patient can call the nurse terminal without going through log-in procedure even in case the condition has turned suddenly before log-in, thus, a quick at-home medical consulting service can be provided even in case of emergency.

An at-home medical consultation system described in claim 18 is the at-home medical consultation system described in any one of claims 1 to 17, wherein the reception server includes a function for accepting a request for a medication from the patient terminal, a function for requesting the doctor terminal used by a doctor in charge of the patient whose request for the medication has been accepted to confirm the medication, and a function for delivering a prescription issued by the doctor terminal in response to the request to a pharmacopoeia terminal used by a pharmacopoeia that offers a home delivery service of medicine.

With this configuration, the patient at home is allowed to ask the doctor in charge for the medication without actually visiting the hospital and to receive the medicine by the home delivery service.

An at-home medical consultation system described in claim 19 is the at-home medical consultation system described in any one of claims 1 to 18, wherein the reception server includes a function for accepting a request for counseling from the patient terminal, a function for receiving counseling sentences from the patient terminal whose request for counseling has been accepted, a function for transmitting the received counseling sentences to the doctor terminal used by a doctor in charge, a function for receiving reply sentences from the doctor terminal in response to the transmitted counseling sentences, and a function for transmitting the received reply sentences to the patient terminal whose request for counseling has been accepted.

With this configuration, the patient at home is allowed to ask the doctor in charge for the counseling concerning the medical treatment without actually visiting hospital, such that the patient can eliminate anxiety for the sickness or consult about the therapy without increasing a burden of the doctor.

An at-home medical consultation system described in claim 20 is the at-home medical consultation system described

in any one of claims 1 to 19, wherein the reception server includes a function for accepting a reservation of visit consultation from the patient terminal.

With this configuration, the patient at home is allowed to make a reservation of visit consultation without actually visiting the hospital, so that the patient can consult the doctor in charge efficiently by minimizing the waiting time in the hospital.

An at-home medical consultation method described in claim 21 is a method of providing an at-home medical consulting service by connecting a patient terminal having a videophone function to a doctor terminal having a videophone function through a communication line, and comprises a step of accepting a request for medical consultation from the patient terminal; and a step of providing a bidirectional communication function of video and audio by connecting the patient terminal whose request for medical consultation has been accepted to the doctor terminal, wherein the step of providing the bidirectional communication of video and audio includes a step of setting a virtual waiting room for providing a conversation service by video and audio among the accepted patient terminals, and the step of accepting the request for medical consultation includes a step of connecting the patient terminal whose request for medical consultation has been accepted to the virtual waiting room that has been set.

With this configuration, the step of accepting the request for medical consultation connects the patient terminal whose request for medical consultation has been accepted to the virtual waiting room set by the step of providing the bidirectional communication of video and audio, and the step of providing the bidirectional communication of video and audio provides a conversation service over videophones among the patient terminals that have been connected to the virtual waiting room, so that the patient can receive an assist from other patients who have been connected to the virtual waiting room even in case the patient's condition has turned suddenly before consulting the doctor by connecting the patient terminal to the doctor terminal and the patient's anxiety for the sickness or sense of isolation can be eliminated by exchanging information among the patients connected to the virtual waiting room, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation method described in claim 22 is the at-home medical consultation method described in claim 21, wherein the step of providing the bidirectional communication of video and audio includes a step of connecting a waiting room terminal having a videophone function installed in a waiting room of a hospital to the virtual waiting room that has been set.

With this configuration, the step of providing the bidirectional communication of video and audio provides a conversation service over the videophones between the patient terminal connected to the virtual waiting room and the waiting room terminal installed in the waiting room of the hospital, so that the patient can receive an assist from other patients who are in the waiting room of the hospital even in case the patient's condition has turned suddenly before consulting the doctor by connecting the patient terminal to the doctor terminal and the patient's anxiety for the sickness and sense of isolation can be eliminated by exchanging information among the patients in the waiting room of the hospital, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation method described in claim 23 is the at-home medical consultation method described in claim 21 or 22, wherein the step of accepting the request for medical consultation includes a step of selecting a callee terminal connected to the virtual waiting room based on a position in a screen specified by a pointing device at the caller terminal connected to the virtual waiting room, and the step of providing the bidirectional communication of video and audio includes a step of providing a conversation service by video and audio by connecting the caller terminal to the callee

terminal separately.

With this configuration, the step of accepting a request for medical consultation selects the callee terminal of the patient terminal specified by the pointing device at the caller terminal, and the step of providing the bidirectional communication of video and audio provides an individual conversation service over the videophones between the caller terminal and the callee terminal, so that the private counseling with the particular patient can be performed, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation method described in claim 24 is the at-home medical consultation method described in any one of claims 21 to 23, wherein the step of accepting the request for medical consultation includes a step of accepting a nurse call from the patient terminal and notifying it to a nurse terminal having a videophone function, and the step of providing the bidirectional communication of video and audio includes a step of providing a conversation service by video and audio by connecting the patient terminal whose nurse call has been accepted to the notified nurse terminal.

With this configuration, the step for accepting the request for medical consultation accepts a nurse call from the patient terminal and notifies it to the nurse terminal, and

the step of providing the bidirectional communication of video and audio provides an individual conversation service over the videophones between the patient terminal whose nurse call has been accepted and the notified nurse terminal, so that the patient at home can ask the nurse for treatment in case the condition has turned suddenly or consult the nurse about anxiety for the sickness and the like, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation method described in claim 25 is the at-home medical consultation method described in claim 24, wherein the step of providing the bidirectional communication of video and audio includes a step of setting a virtual nursing room to which is connected the patient terminal used by a person who needs nursing, the step of accepting the request for medical consultation includes a step of connecting the patient terminal used by the person who needs nursing to the virtual nursing room upon a request from the patient terminal, the doctor terminal or the nurse terminal, and the step of providing the bidirectional communication of video and audio includes a step of transmitting the video and audio of the patient terminals connected to the virtual nursing room to the doctor terminal and/or the nurse terminal upon a request from the doctor terminal and/or the nurse terminal.

With this configuration, the step of accepting the

request for medical consultation connects the patient terminal used by the person who needs nursing to the virtual nursing room set by the step of providing the bidirectional communication of video and audio upon a request from the patient terminal, the doctor terminal or the nurse terminal, and the step of providing the bidirectional communication of video and audio transmits the video and audio of the patient terminals connected to the virtual nursing room upon a request from the doctor terminal and/or the nurse terminal, so that the patient at home who must be monitored for a sudden turn of the condition can be checked regularly from the doctor terminal and/or from the nurse terminal, thus, an at-home medical consultation method in an environment similar to when the patient is actually hospitalized can be provided.

An at-home medical consultation method described in claim 26 is the at-home medical consultation method described in claim 25, wherein the step of accepting the request for medical consultation includes a step of selecting a patient terminal connected to the virtual nursing room based on a position in a screen specified by the pointing device at the doctor terminal and/or the nurse terminal, and the step of providing the bidirectional communication of video and audio includes a step of providing a conversation service by video and audio by connecting the doctor terminal and/or the nurse terminal to the selected patient terminal separately.

With this configuration, the step of accepting the request for medical consultation selects the patient terminal specified by the pointing device at the doctor terminal and/or the nurse terminal, and the step of providing the bidirectional communication of video and audio provides an individual conversation service over the videophones between the doctor terminal and/or the nurse terminal and the selected patient terminal, so that the doctor and/or the nurse can grasp a sudden turn of the patient's condition more properly, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation method described in claim 27 is the at-home medical consultation method described in claim 25 or 26, wherein the step of providing the bidirectional communication of video and audio includes a step of receiving the data obtained from the medical examination sensors provided at the patient terminal and transmitting them to the doctor terminal and/or the nurse terminal.

With this configuration, the data of the medical examination sensors provided at the patient terminal can be confirmed from the doctor terminal and/or the nurse terminal so that the condition of the patient at home can be grasped more correctly, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

The medical examination sensor preferably includes, for example, vital sensors used for measuring the body temperature, heart beat, blood pressure, degree of oxygen saturation, electrocardiogram and so on, or a stethoscope used for stethoscoping the heart sound and breath sound, such that the patient can wear its sensor head by himself. The doctor may visit in advance to mount the sensor head and remotely take a measurement at the time of medical consultation service at home.

An at-home medical consultation method described in claim 28 is a method of providing an at-home medical consulting service by connecting a patient terminal having a videophone function to a doctor terminal having a videophone function through a communication line, and comprises a step of accepting a request for medical consultation from the patient terminal, and a step of providing a bidirectional communication function of video and audio by connecting the patient terminal whose request for medical consultation has been accepted to the doctor terminal, wherein the step of providing the bidirectional communication of video and audio includes a step of setting a virtual nursing room to which is connected the patient terminal used by the person who needs nursing, the step of accepting the request for medical consultation includes a step of connecting the patient terminal used by the person who needs nursing to the virtual nursing room upon a request from

the patient terminal, the doctor terminal or the nurse terminal having the videophone function, and the step of providing the bidirectional communication of video and audio includes a step of synthesizing the video and audio of the patient terminal connected to the virtual nursing room upon a request from the doctor terminal and/or the nurse terminal and delivering them to the doctor terminal and/or the nurse terminal.

With this configuration, the step of accepting the request for medical consultation connects the patient terminal used by the person who needs nursing to the virtual nursing room set by the step of providing the bidirectional communication of video and audio upon a request from the patient terminal, the doctor terminal or the nurse terminal, and the step of providing the bidirectional communication of video and audio transmits the video and audio of the patient terminals connected to the virtual nursing room upon a request from the doctor terminal and/or the nurse terminal, so that the patient at home who must be monitored for a sudden turn of the condition can be checked regularly from the doctor terminal and/or the nurse terminal, thus, an at-home medical consulting service in an environment similar to when the patient is actually hospitalized can be provided.

An at-home medical consultation method described in claim 29 is the at-home medical consultation method described in claim 28, wherein the step of accepting the request for

medical consultation includes a step of selecting the patient terminal connected to the virtual nursing room based on a position in a screen specified by a pointing device at the doctor terminal and/or the nurse terminal, and the step of providing the bidirectional communication of video and audio includes a step of providing a conversation service by video and audio by connecting the doctor terminal and/or the nurse terminal to the selected patient terminal separately.

With this configuration, the step of accepting the request for medical consultation selects the patient terminal specified by the pointing device at the doctor terminal and/or the nurse terminal, and the step of providing the bidirectional communication of video and audio provides an individual conversation service over the videophones between the doctor terminal and/or the nurse terminal and the selected patient terminal, so that the doctor and/or the nurse can grasp a sudden turn of the patient's condition more properly, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation method described in claim 30 is the at-home medical consultation method described in claim 28 or 29, wherein the step of accepting a request for medical consultation includes a step of accepting the nurse call from the patient terminal and notifying it to the nurse terminal, and the step of providing the bidirectional

communication of video and audio includes a step of providing a conversation service by video and audio by connecting the patient terminal whose nurse call has been accepted to the notified nurse terminal.

With this configuration, the step of accepting the request for medical consultation accepts the nurse call from the patient terminal and notifies it to the nurse terminal, and the step of providing the bidirectional communication of video and audio provides an individual conversation service over the videophones between the patient terminal whose nurse call has been accepted and the notified nurse terminal, so that the patient at home can ask the nurse for treatment when the condition has turned suddenly or consult the nurse about anxiety for the sickness, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation method described in claim 31 is the at-home medical consultation method described in any one of claims 28 to 30, wherein the step of providing the bidirectional communication of video and audio includes a step of receiving the data obtained by the medical examination sensors provided at the patient terminal and transmitting them to the doctor terminal and/or the nurse terminal.

With this configuration, the data of the medical examination sensors provided at the patient terminal can be

confirmed from the doctor terminal and/or the nurse terminal, so that the condition of the patient at home can be grasped more correctly, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

The medical examination sensor preferably includes, for example, vital sensors used for measuring, the body temperature, heart beat, blood pressure, degree of oxygen saturation, electrocardiogram and so on, or a stethoscope used for stethoscoping the heart sound or the breath sound, such that the patient can wear its sensor head by himself. The doctor may visit in advance to mount the sensor head and remotely take a measurement at the time of medical consultation service at home.

An at-home medical consulting method described in claim 32 is a method of providing an at-home medical consulting service by connecting a patient terminal having a videophone function to a doctor terminal having a videophone function through a communication line, and comprises a step of accepting a request for medical consultation from the patient terminal, and a step of providing a bidirectional communication function of video and audio by connecting the patient terminal whose request for medical consultation has been accepted to the doctor terminal, wherein the step of accepting the request for medical consultation includes a step of accepting a nurse call

from the patient terminal and notifying it to a nurse terminal having a videophone function and the step of providing the bidirectional communication of video and audio includes a step of providing a conversation service by video and audio by connecting the patient terminal whose nurse call has been accepted to the notified nurse terminal.

With this configuration, the step of accepting the request for medical consultation accepts the nurse call from the patient terminal and notifies it to the nurse terminal, and the step of providing the bidirectional communication of video and audio provides an individual conversation service over the videophones between the patient terminal whose nurse call has been accepted and the notified nurse terminal, so that the patient at home can ask the nurse for treatment when the condition has turned suddenly or consult the nurse about anxiety for the sickness and the like, thus, an at-home medical consulting service in an environment similar to when the patient is actually visiting the hospital can be provided.

An at-home medical consultation method described in claim 33 is the at-home medical consultation method described in any one of claims 21 to 32, wherein the step of accepting a request for medical consultation includes a step of accepting a request for a medication from the patient terminal, a step of requesting the doctor terminal used by the doctor in charge of the patient whose request for the medication has been

accepted to confirm the medication, and a step of delivering a prescription issued by the doctor terminal in response to the request to a pharmacopoeia terminal used by a pharmacopoeia that offers a home delivery service of medicine.

With this configuration, the patient at home is allowed to ask the doctor in charge for the medication without actually visiting the hospital and to receive the medicine by the home delivery service.

An at-home medical consultation method described in claim 34 is the at-home medical consultation method described in any one of claims 21 to 33, wherein the step of accepting the request for medical consultation includes a step of accepting a request for counseling from the patient terminal, a step of receiving counseling sentences from the patient terminal whose request for counseling has been accepted, a step of transmitting the received counseling sentences to the doctor terminal used by a doctor in charge, a step of receiving reply sentences from the doctor terminal in response to the transmitted counseling sentences, and a step of transmitting the received reply sentences to the patient terminal whose request for counseling has been accepted.

With this configuration, the patient at home is allowed to ask the doctor in charge for a counseling concerning the medical treatment without actually visiting the hospital, so that the patient can eliminate anxiety for the sickness or

consult about the therapy without increasing a burden of the doctor.

An at-home medical consultation method described in claim 35 is the at-home medical consultation method described in any one of claims 21 to 34, wherein the step of accepting a request for medical consultation includes a step of accepting a reservation of visit consultation from the patient terminal.

With this configuration, the patient at home is allowed to make a reservation of visit consultation without actually visiting the hospital, so that the patient can consult the doctor in charge efficiently by minimizing the waiting time in the hospital.

An at-home medical consultation program described in claim 36 is for executing, by using a computer, the at-home medical consultation method described in any one of claims 21 to 35.

Upon executing the at-home medical consultation program by using a computer and by making a connection to the patient terminal through the communication line, the same action and effect as the action and effect exhibited by the at-home medical consultation method described in any one of claims 21 to 35 are exhibited.

The above objects as well as other objects, features and advantages of the present invention will become more obvious from the following detailed description of the embodiments of

the invention in conjunction with the drawings.

Brief Description of the Drawings

Fig. 1 is a system block diagram of an at-home medical consultation system according to an embodiment of this invention;

Fig. 2 is a diagram illustrating an example of setting a destination table provided in a communication server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 3 is a diagram illustrating examples of medical examination sensors provided at a patient terminal in the at-home medical consultation system according to the embodiment of the invention;

Fig. 4 is a flowchart (No. 1) illustrating a procedure of a patient side processing in a reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 5 is a flowchart (No. 2) illustrating the procedure of the patient side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 6 is a flowchart (No. 3) illustrating the procedure of the patient side processing in the reception server in the at-home medical consultation system according to the

embodiment of the invention;

Fig. 7 is a flowchart (No. 4) illustrating the procedure of the patient side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 8 is a flowchart (No. 5) illustrating the procedure of the patient side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 9 is a flowchart (No. 6) illustrating the procedure of the patient side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 10 is a flowchart (No. 7) illustrating the procedure of the patient side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 11 is a flowchart (No. 8) illustrating the procedure of the patient side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 12 is a flowchart (No. 9) illustrating the procedure of the patient side processing in the reception server in the at-home consultation system according to the embodiment of the invention;

Fig. 13 is a flowchart (No. 1) illustrating a procedure of a nurse side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 14 is a flowchart (No. 2) illustrating the procedure of the nurse side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 15 is a flowchart (No. 3) illustrating the procedure of the nurse side treatment in the reception server in the at-home consultation system according to the embodiment of the invention;

Fig. 16 is a flowchart (No. 4) illustrating the procedure of the nurse side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 17 is a flowchart (No. 5) illustrating the procedure of the nurse side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 18 is a flowchart (No. 1) illustrating a procedure of a doctor side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 19 is a flowchart (No. 2) illustrating the procedure

of the doctor side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 20 is a flowchart (No. 3) illustrating the procedure of the doctor side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 21 is a flowchart (No. 4) illustrating the procedure of the doctor side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 22 is a flowchart (No. 5) illustrating the procedure of the doctor side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 23 is a flowchart (No. 6) illustrating the procedure of the doctor side processing in the reception server in the at-home medical consultation system according to the embodiment of the invention;

Fig. 24 is a diagram illustrating a patient reception screen displayed on a patient terminal;

Fig. 25 is a diagram illustrating a new registration screen displayed on the patient terminal;

Fig. 26 is a diagram illustrating a patient menu screen displayed on the patient terminal;

Fig. 27 is a diagram illustrating a first visit reception screen displayed on the patient terminal;

Fig. 28 is a diagram illustrating a medical consultation reception completion screen displayed on the patient terminal;

Fig. 29 is a diagram illustrating a waiting room screen displayed on the patient terminal;

Fig. 30 is a diagram illustrating a medical consultation guidance screen displayed on the patient terminal;

Fig. 31 is a diagram illustrating a medical consultation screen (patient side) displayed on the patient terminal;

Fig. 32 is a diagram illustrating a re-visit reception screen displayed on the patient terminal;

Fig. 33 is a diagram illustrating a medication reception screen displayed on the patient terminal;

Fig. 34 is a diagram illustrating a counseling reception screen displayed on the patient terminal;

Fig. 35 is a diagram illustrating a visit reservation screen displayed on the patient terminal;

Fig. 36 is a diagram illustrating a nursing reception screen displayed on the patient terminal;

Fig. 37 is a diagram illustrating a nursing room entrance screen displayed on the patient terminal;

Fig. 38 is a diagram illustrating a nurse menu screen displayed on a nurse terminal;

Fig. 39 is a diagram illustrating a medical consultation

accepted person confirmation screen displayed on the nurse terminal;

Fig. 40 is a diagram illustrating a patient's file display screen displayed on the nurse terminal;

Fig. 41 is a diagram illustrating a nursing room confirmation screen displayed on the nurse terminal;

Fig. 42 is a diagram illustrating a nurse call reception screen displayed on the nurse terminal;

Fig. 43 is a diagram illustrating a doctor menu screen displayed on a doctor terminal;

Fig. 44 is a diagram illustrating a medical consultation screen (doctor side) displayed on the doctor terminal;

Fig. 45 is a diagram illustrating a counseling processing screen displayed on the doctor terminal;

Fig. 46 is a diagram illustrating a reply mail of counseling transmitted to the patient terminal; and

Fig. 47 is a diagram illustrating a medication processing screen displayed on the doctor terminal.

Best Mode for Carrying Out the Invention

Fig. 1 is a system block diagram of an at-home medical consultation system according to an embodiment of this invention, wherein reference numeral 100 represents an at-home medical consultation system in which a reception server 110, a communication server 120, a mail server 130, an

administration server 140, doctor terminals 161, 162, 163, --- used by the doctors, a reception terminal 170 used by the receptionist of a hospital, a waiting room terminal 175 installed in a waiting room of the hospital, a nurse terminal 180 used by the nurses, a pharmacopoeia terminal 190 used by the pharmacopoeia which delivers the medicine and a communication line connection device 150 are connected together through a network (LAN) in the hospital, and are connected to the patient terminals 301, 302, 303, --- used by the patients through a communication line 200 at the time of providing an at-home medical consultation service.

The reception server 110 is a WWW server that becomes a service center when this system is to be used. Various procedures can be taken for the at-home medical consultation service by accessing a predetermined page from the patient terminals 301, 302, 303, ---, doctor terminals 161, 162, 163, --- and nurse terminal 180 etc. by using a web browser.

The communication server 120 includes a destination table 122 for setting a terminal address of a terminal that is to be connected, connects the terminals set in the destination table, and provides a bidirectional communication function by multimedia information including video and audio. Therefore, the communication server 120 includes a function for connecting multi-points among the terminals corresponding to a videophone protocol used by the connected terminals.

The communication server 120 supports a variety of connection modes depending upon the object. The destination table 122 includes, as shown in Fig. 2, a virtual waiting room to which are connected the waiting room terminal 170 and the patient terminals that are being connected to the at-home consultation system, virtual consultation rooms 1, 2, 3, --- each provided for the doctor terminals 161, 162, 163, --- and to which are connected the patient terminals who are to hold an at-home medical consultation, virtual nursing rooms 1, 2, 3, --- to which are connected the patient terminals used by patients who need nursing, such as patients who must be monitored for a turn of condition, patients living alone and bedridden patients, of which the conditions can be confirmed from the nurse terminal or the doctor terminal, and virtual individual conversation rooms A, B, C, D, E, --- capable of offering individual conversation functions, such as individual conversation between the patient terminals, between the patient terminal and the nurse terminal, between the patient terminal and the waiting room terminal, and between the patient terminal and the reception terminal. Conversations can be held simultaneously over the videophones within a processing capability of the communication server 120.

Here, the terminals are connected with each other through a computer network inclusive of an internet. It is therefore

assumed that an IP address of a terminal that is to be connected is set to the destination table. In the case of, for example, an ISDN videophone to which the connected terminal makes a communication through an ISDN line, a telephone number of the terminal is set to the destination table.

The mail server 130 is used for sending a reply of medical counseling or for sending various notices to the patient terminal which is off line. The mail server needs not necessarily be provided in the system, but a mail server provided by a line connection provider may be used.

The administration server 140 is used for managing the operation of the hospital and includes a database 142 for storing a patient's file recording the history of medical consultation of a patient, a medical consultation reception table for registering a patient whose medical consultation has been accepted, a medication reception table for registering a patient for whose medication has been accepted, a counseling reception table for registering a patient whose counseling has been accepted, a visit reservation table for registering a patient whose visit has been accepted and a nursing reception table for registering a patient who must be monitored for a turn of condition.

This embodiment is not concerned to a hospital that is dedicated to at-home medical consultation, but is concerned to a hospital which accepts ordinary visit and hospitalization.

Therefore, the administration server 140 deals with the ordinary outpatients, inpatients as well as patients at home. Therefore, the reception terminal accepts the outpatients and inpatients, notifies the reception data to the doctor terminals and to the nurse terminal, instructs the pharmacopoeia's terminal for medication in accordance with a prescription from the doctor terminal, and calculates the fees for medical treatment based on the data from the doctor terminal and the pharmacopoeia terminal. However this invention is concerned with the at-home medical consultation, the detailed description of the administration related to the ordinary visit or hospitalization is omitted.

The doctor terminals 161, 162, 163, ---, reception terminal 170, nurse terminal 180, and pharmacopoeia terminal 190 are each constituted by a computer (a) equipped with an video input interface/audio input-output interface/network connection device, a keyboard (b)/mouse (c) for inputting commands and messages, a monitor screen (d) for displaying video, a TV camera (e) for obtaining the user's video, and a headset (f) for inputting/outputting the user's audio. In the computer (a), a video/audio communication program for obtaining the video and audio of the user and for transmitting them to the communication server 120, and for outputting the video and audio transmitted from the communication server 120 to the monitor screen (d) and to the headset (f), and a web

browser for accessing the reception server 110 are installed.

The waiting room terminal 175 is provided with the a computer (a), a keyboard (b), a mouse (c), a monitoring screen (d), a TV camera (e), like the doctor terminals. Instead of a headset (f), however, a speaker (f1) and a microphone (f2) are provided, so that the patient can hold a conversation with people in the waiting room of the hospital.

The communication line 200 may be compatible with any communication line such as a wired computer network, a wireless computer network, a telephone line, a satellite line or internet. Here describes a case using the internet. Therefore, the communication line connection device 150 uses an internet rooter for connecting to the internet.

On the other hand, the patient terminals 301, 302, 303, --- are each provided with a computer (a) having an video input interface/audio input-output interface/network connection device, a keyboard (b)/mouse (c) for inputting commands and messages, a monitor screen (d) for displaying image, a TV camera (e) for obtaining the patient's video, a headset (f) for inputting/outputting the patient's audio, like the doctor terminals. Further, a nurse call button (g) for calling the nurse terminal from the patient terminal and a medical examination sensor (h) for vital measurement of the patient are provided. In the computer (f), a video/audio communication program for obtaining the video and audio of the

patient and for transmitting them to the communication server 120, and for outputting the video and audio transmitted from the communication server 120 to the monitor screen (d) and to the headset (f), and a web browser for accessing the reception server 110 are installed.

The medical examination sensor (h) includes, as shown in Fig. 3, a stethoscope for hearing the heart sound of a patient, a body temperature probe for measuring the body temperature of the patient, a blood pressure probe for measuring the blood pressure of the patient, an SpO2 probe for measuring the oxygen saturation degree and pulse, and an electrocardiographic probe for measuring the electrocardiogram of the patient. The data of the sensor like a stethoscope used for consultation by hearing the sound is transmitted by changing with a microphone using a switch, and the data of the other probes are digitized by monitoring devices and are transmitted as batch data. Therefore, the sound of the stethoscope can be directly heard by using an earphone of a headset at the doctor terminal etc. and the data of other vital sensors can be displayed on a monitor screen for confirmation.

The medical examination sensor is usually worn by the patient himself for taking a measurement, so the probes preferably have a form that can be worn by himself. Depending upon the condition of a disease, however, the medical examination sensor may include a highly sophisticated one that

is mounted by a doctor who makes a visit. Further, the medical examination sensor may not be the same for every patient, but may be selected out of many kinds of sensors depending upon the condition of the disease.

As the video/audio communication program installed in each terminal, for example, the program corresponding to the IP-type videophone protocol in compliance with H. 323 recommended by ITU-T can be used, since the internet is used here as the communication line. When the ISDN public line is used as the communication line, the program corresponding to the ISDN videophone protocol in compliance with H. 320 recommended by ITU-T can be used. The video/audio communication program is not limited thereto, however, any kind of program may be used so far as it is capable of bidirectional communication of video and audio through the communication line.

In the above embodiment, the terminals are provided with a computer having a video input interface, audio input/output interface and network communication device, in which the video/audio communication program and the web browser are installed. This invention is not limited thereto, however, any kind of terminal may be used so far as it includes the videophone function and the web browser function.

In the above embodiments, the consultation room 1, consultation room 2, consultation room 3, ---, and individual

conversation room A, individual conversation room B, individual conversation room C, individual conversation room D, individual conversation room E, ---, communicate with the terminals in a one-to-one manner. Therefore, the communication needs not necessarily pass through the communication server, and the terminals may be directly connected through the videophone. In this case, the reception server may be provided with a function for mediating the IP address over to the terminals to which the connection is to be made.

The above embodiment is provided with the communication server 120 offering a multi-point connection for connecting three or more videophone terminals, so the waiting room terminal is mutually connected to a plurality of patient terminals in the virtual waiting room. Here, the video of the terminals that are received may be synthesized and delivered to the terminals, or the video of the terminals may be transmitted to each other terminals and displayed being rearranged on each terminals.

Further, the nursing room 1, nursing room 2, nursing room 3, --- are used for confirming the video and audio of the patient terminals who receive nursing when the nurse terminal or the doctor terminal is connected, and transmit the video of the patient terminals entered in the virtual nursing room to the nurse terminal or the doctor terminal upon a request from the

nurse terminal or the doctor terminal. At this moment, the video of the patient terminals may be synthesized and delivered to the nurse terminals or the doctor terminals, or the video of the patient terminals may be transmitted to the nurse terminals or the doctor terminals and displayed being rearranged on the receiving side.

Next, described below is a procedure for carrying out the at-home medical consultation by using the at-home medical consultation system 100.

Figs. 4 to 12 illustrate flowcharts of the patient-side processing in the reception server 110. When a patient accesses a predetermined address from the patient terminal, a patient reception screen is displayed (S100) as shown in Fig. 24. When a predetermined patient ID and a password are input and a "log-in" button is clicked on the patient reception screen (S102), the input data is obtained (S104) and is collated with the patient's file. When the patient is a regularly registered person (S106), a patient menu screen shown in Fig. 26 is displayed (S108). When the patient is not a regularly registered person, a screen (not shown) for requesting the re-input is displayed (S110).

When the patient has not been registered, "HERE" is clicked to display a new registration screen as shown in Fig. 25 (S130). On the new registration screen, the name, address, date of birth, sex, insurance number, telephone number, the

name of a person who should be called in case of emergency, telephone number of the person who should be called in case of emergency, E-mail address, name of a doctor in charge, anamnesis, allergy, etc. are input. When a "SEND" button is clicked (S132), the input data are obtained (S134), and the patient ID and the password are issued (S136). Further, a patient's file is created (S138), and the input data are recorded in the patient's file together with the issued patient ID and the password. Then, a registration completion screen (not shown) is displayed (S140), and the routine returns back to the patient reception screen of S100.

When a "NURSE CALL" button is clicked on the patient reception screen, or when the nurse call button provided at the patient terminal is pressed (S114), the log-in data at the patient terminal are obtained (S142), a nurse call from the patient is notified to the nurse terminal (S144), and the routine returns back to the patient reception screen of S100. In case of an emergency, therefore, the patient is allowed to hold a conversation with a nurse through a nurse-side processing mentioned later without going through the log-in procedure.

After the log-in from the patient reception screen, the patient can call the nurse terminal at any time through the same processing by clicking the "NURSE CALL" button displayed on the screen or pressing the nurse call button provided at

the patient terminal.

In the following procedure, the description of the nurse call is not repeated since it is the same.

When the "FIRST VISIT RECEPTION" button is clicked on the patient menu screen (S116), a first visit reception screen shown in Fig. 27 is displayed (S150). A medical consultation department desired by patient is selected on the first visit reception screen, and data related to the conditions of the body, such as rational symptoms, appetite, sleep, bowel movements, urine, drinking, smoking, etc. are input. When a "SEND" button is clicked (S152), the input data are obtained (S154), and a patient's consultation file on the selected consultation departments is created (S156).

The first visit reception screen is provided with a "RECEPTIONIST CALL" button. When the patient clicks the "RECEPTIONIST CALL" button, a notice of call is transmitted to the reception terminal. When the reception terminal responds to this, a terminal address of the reception terminal and a terminal address of the patient terminal are set to an individual conversation room in the destination table 122 in the communication server, so that conversation can be held by video and audio between the patient terminal and the reception terminal in the hospital. Therefore, the patient can consult the receptionist when he has no idea of the medical consultation department or does not know how to conduct the procedure.

The following reception screens, too, have the "RECEPTIONIST CALL" button which, however, is not described again since it is the same.

When the medical consultation is accepted, the patient is registered to the medical consultation reception table (S158) and a medical consultation reception completion screen shown in Fig. 28 is displayed (S160). When an "ENTER THE WAITING ROOM" button is clicked on the medical consultation reception completion screen (S162), a waiting room screen shown in Fig. 29 is displayed (S164), and a patient terminal address is set to the virtual waiting room of the destination table 122 in the communication server (S166). Therefore, conversation can be held by video and audio among the patient terminals entered in the virtual waiting room and the waiting room terminal of the hospital.

The waiting room screen displays the video of the waiting room of the hospital and the video of the patients entered in the virtual waiting room, as well as the names of the patients on each video display portion of the patients. Patients who do not wish to publish their names may register their nicknames in advance, so that their registered nicknames may be displayed.

When the video display portion of a patient who is desired to be called is clicked on the waiting room screen, the clicked position is obtained and is compared with the coordinates of

each patient terminals that are displayed to select a callee patient terminal, and a notice of call (not shown) is transmitted to the patient terminal, when the callee patient clicks the "RESPONSE" button in response to the notice of call, an individual conversation screen (not shown) is displayed, and a terminal address of the caller patient terminal and a terminal address of the callee patient terminal are set to the individual conversation room A in the destination table 122 in the communication server. Thus, the patients entered in the virtual waiting room are allowed to hold a conversation individually among them.

The waiting room screen which is the same as that of Fig. 29 is also displayed on the waiting room terminal 175 of the hospital. When a patient in the waiting room of the hospital clicks the video display portion of a patient who is desired to be called, a notice of call (not shown) is transmitted to a caller patient terminal in the same manner as above. When the callee patient clicks the "RESPONSE" button in response to the notice of call, an individual conversation screen (not shown) is displayed, and a terminal address of the waiting room terminal and a terminal address of the callee patient terminal are set to the individual conversation room in the destination table 122 in the communication server. Thus, the patent in the waiting room of the hospital is allowed to hold a conversation individually to the patient entered in the

virtual waiting room.

When a "LEAVE" button is clicked on the waiting room screen, the terminal address of the patient terminal is deleted from the waiting room of the destination table 122 in the communication server, and the connection to the virtual waiting room is released.

Upon receipt of a notice of medical consultation guidance from the nurse terminal or the doctor terminal (S168), a medical consultation guidance screen is displayed as shown in Fig. 30 (S170). When an "ENTER CONSULTATION ROOM" button is clicked in the medical consultation guidance screen (S172), the terminal address of the patient terminal is deleted from the waiting room of the destination table 122 in case the patient has entered in the virtual waiting room (S174), the entry into the consultation room is notified to the doctor in charge's terminal (S175), and the medical consultation screen (patient side) shown in Fig. 31 is displayed (S176). The patient terminal is connected to the doctor in charge's terminal through the doctor side processing mentioned later, and the patient is allowed to hold a conversation with the doctor in charge and receive a medical consultation from the doctor.

In holding the medical consultation, the patient wears the medical examination sensor so that the doctor terminal can take vital measurements and conduct the medical examination through a stethoscope in a remote operation. Values measured

by the medical examination sensors are displayed on the consultation screen thus the patient himself can also see the measured values.

Upon receipt of a notice of completion of medical consultation from the doctor terminal (S178), the medical consultation screen (patient side) is closed and the routine returns back to the patient menu screen of S108.

When a "RE-VISIT RECEPTION" button is clicked on the patient menu screen (S118), the medical consultation file of the patient is obtained (S180) and a re-visit reception screen is displayed as shown in Fig. 32 (S182). The medical consultation department that is now being held is displayed on the re-visit reception screen based on the medical consultation file. When a desired medical consultation department is selected out of the departments that are displayed on the re-visit reception screen, a rational symptom is input if any, and a "SEND" button is clicked (S184), the input data are obtained (S186) and the routine proceeds to S158. Thus, the patient is registered to the medical consultation reception table like the case of accepting the first visit mentioned earlier, and waits for the notice of medical consultation guidance to consult the doctor.

When an "MEDICATION RECEPTION" button is clicked on the patient menu screen (S120), the medical consultation file of the patient is obtained (S190) and a medication reception

screen as shown in Fig. 33 is displayed (S192). The medical consultation department that is now being held is displayed on the medication reception screen based on the medical consultation file. When a desired department of medication is selected out of the departments that are displayed on the medication reception screen, a rational symptom is input if any, and a "SEND" button is clicked (S194), the input data are obtained (S196), and are registered to an medication reception table (S198), and the medication reception is noticed to the doctor terminal (S200). When a notice of permission is received from the doctor terminal in response to the notice of medication reception through the doctor side processing mentioned later (S202), a completion of medication reception (not shown) is displayed (S204). When a notice of non-permission is received (S206), the reason for non-permission (not shown) is displayed (S208) and the routine returns back to the patient menu screen of S108.

When a "COUNSELING RECEPTION" button is clicked on the patient menu screen (S122), a counseling reception screen as shown in Fig. 34 is displayed (S210). When a desired department of counseling is selected on the counseling reception screen, a content of counseling is input, and a "SEND" button is clicked (S212), the input data are obtained (S214), a notice of counseling reception is transmitted to the doctor terminal (S218), and the routine returns back to the patient

menu screen at S108. Thus, a reply of the doctor in charge is transmitted by mail to the patient terminal at a later day through the doctor side processing mentioned later.

When a "VISIT RESERVATION" button is clicked on the patient menu screen (S124), the medical consultation file of the patient is obtained (S220) and a visit reservation screen as shown in Fig. 35 is displayed (S222). The department of medical consultation that is now being held is displayed on the visiting reservation screen based on the medical consultation file. When a desired department of visit consultation is selected out of the departments that are displayed, a date is input, and the "SET" button is clicked (S224), a state of reservations is displayed (S226). When the possible reservation time that can be reserved is selected in the state of reservation display, and a "RESERVE" button is clicked (S228), the specified time is displayed as being reserved, and the reservation of the specified time is set to the visit reservation table (S230). Thus, the patient is allowed to make a reservation of visit from the patient terminal.

When the specified time that has been reserved is selected and a "CANCEL" button is clicked (S232), the display of reservation of the specified time is deleted, and the reservation is deleted from the visit reservation table (S234). Thus, the patient is allowed to cancel the reservation of visit

from the patient terminal.

When a "NURSING RECEPTION" button is clicked on the patient menu screen (S126), a nursing reception screen is displayed as shown in Fig. 36 (S240). When a rational symptom may be input if any, and a "REQUEST FOR ENTERING NURSING ROOM" button is clicked on the nursing reception screen (S242), the input data are obtained (S244) and a request for nursing is notified to the nurse terminal (S246). When a notice of permission is received from the nurse terminal in response to the request for nursing through the nurse side processing mentioned later (S248), the patient is registered to the nursing reception table (S250), a nursing room entrance screen shown in Fig. 37 is displayed (S252), and a terminal address of the patient terminal is set to the nursing room in the destination table 122 (S254). When a notice of non-permission is received from the nurse terminal (S256), the reason for non-permission is displayed (S258) and the routine returns back to the patient menu screen of S108.

When an "INTERRUPT TRANSMISSION" button is clocked on the nursing room entrance screen (S260), the transmission of video and audio is interrupted (S262) and when a "RESTART TRANSMISSION" button is clicked (S264), the transmission of video and audio is restarted (S266). Thus, the patient in the virtual nursing room is allowed to keep his privacy by interrupting the transmission if he faces an event which he

does not wish to be seen by nurse or doctor.

When a "LEAVE" button is clicked on the nursing room screen (S268), the terminal address of the patient terminal is deleted from the nursing room in the destination table 122 (S270), the patient is deleted from the nursing reception table (S272), when a "RETURN" button is clicked (S274), the routine returns back to the patient menu screen of S108.

Figs. 13 to 17 illustrate flowcharts of the nurse side processing in the reception server 110. When a nurse accesses a predetermined address from the nurse terminal, a nurse log-in screen (not shown) is displayed (S300). When a predetermined nurse ID and a password are input and a "LOG-IN" button is clicked on the nurse log-in screen (S302), a nurse menu screen shown in Fig. 38 is displayed (S304).

When a "CONFIRM MEDICAL CONSULTATION ACCEPTED PERSON" button is clicked on the nurse menu screen (S306), a medical consultation accepted person confirmation screen shown in Fig. 39 is displayed (S320).

When a consultation room is selected and a "SET" button is clicked on the medical consultation accepted person confirmation screen (S322), the data of the specified consultation room of the medical consultation reception table is obtained(S324), and a medical consultation accepted persons' list of the day is displayed (S326).

When the patient ID of a particular patient is clicked

in the medical consultation accepted persons' list (S328), a patient's file display screen shown in Fig. 40 is displayed (S330) so that the patient's file data can be confirmed.

The patient's file display screen is provided with a "CALL PATIENT" button. When this button is clicked (S332), a processing for calling the patient is executed (S334). Then a notice of call to the patient terminal is transmitted, an individual conversation screen is displayed and a terminal address of the patient terminal and a terminal address of the nurse terminal are set to the individual conversation room in the destination table like the nurse call reception mentioned later, so that a conversation by video and audio between the patient and the nurse can be held. In case of an emergency, an "EMERGENCY NOTICE" button is clicked to notify the doctor terminal.

Further, the patient's file displaying system is provided with an "ENTER NURSING ROOM" button. When this button is clicked (S336), the patient is registered to the nursing reception table (S338), an address of the patient terminal is set to the nursing room in the destination table 122 (S340), and the entry into the nursing room is notified to the patient terminal (S342). On the other hand, when a "DISPLAY OF NURSING ROOM ENTRANCE" button provided in the notice of entry into the nursing room is clicked at the patient terminal, the above-mentioned nursing room entrance screen is displayed.

When a "RETURN" button is clicked on the patient's file displaying screen (S344), the routine returns back to the medical consultation accepted person confirmation screen. When a "RETURN" button is clicked on the medical consultation accepted person confirmation screen, (S350), the routine returns back to the nurse menu screen of S304.

When a "CONFIRM NURSING ROOM" button is clicked on the nurse menu screen (S308), a nursing room confirmation screen as shown in Fig. 41 (S360) is displayed. When a nursing room is selected, and a "SET" button is clicked (S362), the address of the nurse terminal is set to the selected nursing room in the destination table 122 (S364) to obtain and display the video and audio of the patient terminals in the nursing room, as well as to obtain and display the medical examination sensor data at the patient terminals (S366).

The sensor display portion of every patient is provided with an "AUTOMATIC" button and a "MANUAL" button. When the "AUTOMATIC" button is clicked, the medical examination sensor takes a measurement at regular intervals. When the "MANUAL" button is clicked, the automatic measurement is reset and the measurement is taken on demand.

When the video of a particular patient is clicked on the nursing room confirmation screen, the clicked position is obtained and is compared with the coordinates of each patient terminal that are displayed to select the callee patient

terminal (S368), thereby to execute a processing for calling the patient (S370). Thus, an individual conversation screen (not shown) is displayed, a terminal address of the patient terminal and a terminal address of the nurse terminal are set to the individual conversation room in the destination table, so that a conversation can be held by video and audio between the patient and the nurse, like the nurse call reception mentioned later. When an "EMERGENCY NOTICE" button is clicked on the individual conversation screen, the doctor in charge's terminal is notified as such, so that the doctor can cope with a sudden turn of the patient's condition.

The nursing room confirmation screen is provided with a "GENERAL BROADCAST" button. When this button is clicked (S382), the audio is transmitted to the patient terminals (S384). When the click is reset (S386), transmission of the audio to the patient terminals terminates (S388). Thus, all of the patients entered in the nursing rooms can be informed at one time. Here, though the general broadcast is by audio only, the video of the nurse terminal may be transmitted to, and displayed on, the patient terminals.

When a "RETURN" button is clicked on the nursing room confirmation screen (S392), the address of the nurse terminal is deleted from the nursing room in the destination table 122 (S392) and the routine returns back to the nurse menu screen at S304.

When a notice of nurse call is received from the patient terminal on the nurse menu screen (S310), a nurse call reception screen shown in Fig. 42 is displayed (S400), the terminal address of the nurse terminal and the terminal address of the patient terminal are set to the individual conversation room in the destination table 122 (S402), and the medical examination sensor data at the patient terminal are obtained and displayed (S404). Therefore, the nurse is allowed to hold a conversation with the patient by video and audio, as well as to confirm the medical examination sensor data of the patient so that a suitable treatment for the patient is conducted.

When an "EMERGENCY NOTICE" button is clicked on the nurse call screen (S406), an emergency is notified to the doctor in charge's terminal (S408). When a "CONFIRM PATIENT" button provided in the emergency notice is clicked at the doctor in charge's terminal, the patient terminal is connected to the doctor terminal through the doctor side processing mentioned later, so that the doctor in charge is allowed to confirm the video and audio of the patient as well as the medical examination sensor data.

When a "DISCONNECT" button is clicked on the nurse call reception screen (S410), the terminal addresses of the nurse terminal and of the patient terminal are deleted from the individual conversation room in the destination table 122 (S412), and the routine returns back to the nurse menu screen

of S304.

When a notice of call is received from the doctor on the nurse menu screen (S312), an individual conversation screen (not shown) is displayed (S420), and the terminal address of the nurse terminal and the terminal address of the doctor terminal are set to the individual conversation room in the destination table 122 (S422). Thus, a conversation can be held by video and audio between the nurse and the doctor. When a "DISCONNECT" button is clicked On the individual conversation screen (S424), the terminal addresses of the nurse terminal and of the doctor terminal are deleted from the individual conversation room in the destination table 122 (S426), and the routine returns back to the nurse menu screen at S304.

Figs. 18 to 23 illustrate flowcharts of a doctor side processing in the reception server 110. When the doctor accesses a predetermined address from the doctor terminal, a doctor log-in screen (not shown) is displayed (S500). When a predetermined doctor ID and a password are input and a "LOG-IN" button is clicked On the doctor log-in screen (S502), a doctor menu screen shown in Fig. 43 is displayed (S504).

When an "ENTER THE CONSULTATION ROOM" is clicked on the doctor menu screen (S506), the medical consultation reception data of the consultation room in charge of the doctor from the medical consultation reception table can be obtained (S520), and a medical consultation screen (doctor side) shown in Fig.

44 is displayed (S520). The medical consultation screen (doctor side) includes a patient video display portion for displaying the video of the patient during the medical consultation, a sensor data display portion for displaying the medical examination sensor data at the patient terminal during the medical consultation, a patient's file display portion for displaying a selected patient's file, and a medical consultation reception data display portion for displaying the medical consultation reception data in the consultation room used by the doctor.

The patients who wish to receive a consultation on the day consisting of outpatients and at-home patients in order of reception are displayed in the medical consultation reception data display portion. The patients who have already consulted are displayed as "FINISHED" and the patients during the consultation are displayed as "UNDER CONSULTATION" on the status column.

When the ID of a particular patient is clicked to select the patient in the medical consultation reception data display portion (S524), the file of the patient is retrieved and is displayed on the patient's file display portion (S526).

When a "NOTICE OF ENTRANCE" button on the right upper side on the medical consultation screen (doctor side) is clicked (S528), a notice of medical consultation guide is transmitted to the patient terminal that the patient's file

is displayed (S530). When a "RESPONSE" button is clicked at the patient terminal that has received the notice (S532), the terminal address of the patient terminal is set to the consultation room in the destination table 122 (S534), and the medical examination sensor data at the patient terminal are obtained and displayed (S536).

When a "TERMINATE MEDICAL CONSULTATION" button is clicked on the medical consultation screen (doctor side), while a particular patient is receiving a medical consultation (S538), the terminal address of the patient terminal is deleted from the consultation room in the destination table 122 (S540), and the medical consultation of the patient completes.

When a "WRITE IN THE FILE" button is clicked on the medical consultation screen (doctor side) (S542), the data input by the doctor are obtained and are recorded into the patient's file that is now being opened (S544).

When a "RETURN" button is clicked on the medical consultation screen (doctor side) (S546), the routine returns back to the doctor menu screen of S504.

When a "CONFIRM THE NURSING ROOM" button is clicked on the doctor menu screen (S508), a nursing room confirmation screen same as Fig. 41 is displayed (S550). When a nursing room is selected and a "SET" button is clicked (S552), a terminal address of the doctor terminal is set to the specified nursing room in the destination table 122 (S554), the video

and audio of the patient terminals entered in the nursing room are obtained and displayed, as well as the medical examination sensor data at the patient terminals (S556).

The sensor display portion of every patient is provided with an "AUTOMATIC" button and a "MANUAL" button. When the "AUTOMATIC" button is clicked, the consultation sensor takes a measurement at regular intervals. When the "MANUAL" button is clicked, the automatic measurement is reset, and a measurement is taken on demand.

When the video of a particular patient is clicked on the nursing room confirmation screen, the clicked position is obtained and is compared with the coordinates of the patient terminals that are displayed to select a patient callee terminal (S558) and to execute a processing for calling the patient (S560). Thus, an individual conversation screen is displayed, and the terminal address of the patient terminal and the terminal address of the terminal are set to the individual conversation room in the destination table, like in the above processing on the nurse side, so that a conversation can be held by video and audio between the patient and the doctor.

The nursing room confirmation screen is provided with a "GENERAL BROADCAST" button. When this button is clicked (S568), the audio are transmitted to the patient terminals (S570). When the click is reset (S572), transmission of audio

to the patient terminals terminates (S574). Thus, all of the patients in the nursing rooms can be informed at one time. Though the general broadcast here is by audio only, the video of the doctor terminal may be transmitted to, and displayed on, the patient terminals.

When a "RETURN" button is clicked on the screen for confirming the nursing room confirmation screen (S576), the address of the doctor terminal is deleted from the nursing room in the destination table 122 (S578) and the routine returns back to the doctor menu screen of S504.

When a notice of emergency is received from the nurse terminal on the doctor menu screen (S510), an individual conversation screen (not shown) is displayed (S580), and the terminal address of the doctor terminal and the terminal address of the notified patient terminal are set to the individual conversation room in the destination table 122 (S582), and the medical examination sensor data at the patient terminal are obtained and displayed (S584). Thus, the doctor in charge is allowed to hold a conversation with the patient by video and audio and confirm the medical examination sensor data of the patient so that a suitable treatment for the patient can be conducted.

When a "CUT" button is clicked on the individual conversation screen (S586), the terminal addresses of the doctor terminal and of the patient terminal are deleted from

the individual conversation room in the destination table 122 (S590), and the routine returns back to the doctor menu screen of S504.

When a "CONFIRM MEDICATION" button is clicked on the doctor menu screen (S512), the medication reception data of the doctor in charge are obtained from the medication reception table (S600), and an medication processing screen shown in Fig. 47 is displayed (S602). When the ID of a particular patient is clicked to select the patient on the medication processing screen (S604), the file of the patient is obtained and is displayed (S606). When the content of medication for the patient is confirmed by the doctor in charge and a "PERMIT" button is clicked (S608), the comment input by the doctor is obtained (S609), and a prescription is notified to the pharmacopoeia terminal (S610). Further, the medication data are recorded into the patient's file (S612) and the notice of permission of medication is transmitted to the patient terminal (S614). When a "NOT-PERMIT" button is clicked by the doctor in charge (S616), the comment input by the doctor is obtained (S618), and the reason for non-permission is transmitted to the patient terminal (S622).

When a "RETURN" button is clicked on the medication processing screen (S624), the routine returns back to the doctor menu screen of S504.

When a "CONFIRM THE COUNSELING" button is clicked on the

doctor menu screen (S514), the doctor in charge's counseling reception data from the counseling reception table can be obtained (S630), and a counseling processing screen shown in Fig. 45 is displayed (S632). The counseling processing screen displays the patient's ID, the patient's name, the date of counseling and the content of counseling. The doctor in charge reads the content of counseling, clicks the patient's ID if necessary, and replies to the counseling while making reference to the patient's file.

When a "SEND" button is clicked on the counseling processing screen (S634), the reply that is input is obtained (S636) and is recorded in the patient's file (S638), and a reply mail of the counseling shown in Fig. 46 is generated and is delivered to the patient (S640).

When a "NEXT" button is clicked on the counseling processing screen (S642), the data of a next patient whose counseling is accepted are obtained and displayed (S644), and when a "Previous" button is clicked (S646), the data of a previous patient whose consultation was accepted are obtained and displayed (S648). Thus, the doctor in charge is allowed to confirm all registered contents of counseling to reply.

When a "RETURN" button is clicked on the consultation processing screen (S650), the routine returns back to the doctor menu screen of S504.

A "NURSE CALL" button is provided on the doctor menu

screen, though it is omitted in the process flow in the processing on the doctor side. When this button is clicked, an individual conversation screen is displayed, the terminal address of the doctor terminal and the terminal address of the nurse terminal are set to the individual conversation room in the destination table 122, so that a conversation can be held between the doctor and the nurse.

In the above embodiment, though the at-home patients are treated together with the outpatients and inpatients, the present invention is not limited thereto but can be applied to a cyber-hospital which mainly treats at-home patients.

In the above embodiment, the reception server and the communication server are provided in the hospital. However, the present invention is not limited thereto, the reception server and the communication server may be provided on a site different from the hospital, and the at-home medical consultation service of the present invention is offered through a network.

Further, the doctor terminal and the nurse terminal need not necessarily be provided in the hospital but the doctor and the nurse may offer an at-home medical service through the network.

In the above embodiment, the administration server is provided independently from the reception server. However, the reception server may be provided with an administration

database and includes a function for administrating of the hospital.

In the above embodiment, the doctor terminal, nurse terminal and waiting room terminal are provided regardless of the medical consultation departments. In a large-scale hospital, however, the terminals are provided by each medical consultation departments, and are selected depending upon the department selected by a patient.

In the above embodiment, a single nurse terminal is provided assuming that the nurse terminal is installed in, for example, a nurse center to check the virtual nursing rooms where the persons who need nursing regularly, in the same manner as going around the sickrooms in a hospital. However, it is also allowable to provide, for example, the nurse center with a nurse terminal of a large screen for monitoring the virtual nursing rooms, and the individual consultation rooms with separate nurse terminals to assist the medical consultation by the doctor.

In the above embodiment, the nurse call is conducted by either clicking the "NURSE CALL" button provided on the screen displayed on the patient terminal or pushing the nurse call button connected to the patient terminal. However, either one of them may be employed as a matter of course.

In the above embodiment, the video, audio and medical examination sensor data at the patient terminal entered in the

nursing room are transmitted to the nurse terminal and/or the doctor terminal when requested from the nurse terminal and/or the doctor terminal. However, the video, audio and medical examination sensor data of the patient terminal entered in the nursing room may be partly or wholly transmitted to a particular terminal continuously. For example, by installing a dedicated terminal for monitoring the nursing room in the nurse center, and continuously displaying part or whole of the video, audio and medical examination sensor data of the patient terminal entered in the nursing room, a turn of the condition of a person who needs nursing can be grasped.

In this case, the signal level of the medical examination sensors transmitted from the patient terminal entered in the nursing room may be monitored at the terminal, and an alarm may be displayed at the terminal when a preset alarm level is exceeded. Thus a sudden turn of the condition can be coped with even if the video of the patient terminal in the nursing room is not always monitored at the terminal.

Further, the patient terminal may be provided with a function for monitoring the signal level of the medical examination sensors, and the nurse call may be informed when an alarm level set by the nurse terminal or the doctor terminal is exceeded. Thus, a turn of the condition is automatically detected and notified so far as the patient is wearing the medical examination sensor, and the situation even when the

patient is not capable of pushing the nurse call button can be coped with, so that the patient at-home can receive the at-home consultation service without anxiety.

In the above embodiment, the calling procedure for the patient terminal displayed on the screen of the virtual waiting room or the virtual nursing room is executed by obtaining the click position and comparing with the coordinates of the patient terminals that are displayed to select a callee patient terminal. A map describing a relationship between the clicked position and the corresponding patient terminal may be generated to execute a calling procedure relying on the clickable map.

The above embodiment does not describe the accounting procedure of fees for consulting the patient at home. The system, however, processes every medical work by using medical consultation files in the same manner as treating the outpatients in general. Therefore, the medical fees for the patients at home can be calculated by the same processing as the ordinary point processing.

Further, the at-home medical consultation system may be connected to banking institutions to automatically charge the medical fees to the bank account.

Industrial Applicability

As mentioned above, According to the present invention,

even when the patient terminal has not been connected to the doctor terminal, a sudden turn of the patient's condition can be coped with, the patient's anxiety for the sickness and sense of isolation can be eliminated without increasing the burden of a doctor, and an at-home medical consultation service in an environment similar to when the patient is actually visiting a hospital can be provided.